

Title (en)

GLASS-CERAMIC SUBSTRATES FOR ELECTRONIC PACKAGING AND THERMALLY CRYSTALLIZABLE GLASS COMPOSITIONS OF USE IN THE PRODUCTION THEREOF

Publication

EP 0319146 A3 19900516 (EN)

Application

EP 88310478 A 19881108

Priority

US 12592887 A 19871127

Abstract (en)

[origin: EP0319146A2] This invention is directed to the preparation of glass-ceramic materials especially suitable for use in multilayer substrates for integrated circuit packages. The inventive glass-ceramics are derived from thermally crystallizable glasses which, in the form of frit, are capable of being sintered into an integral body at temperatures below 1000 DEG C and essentially concurrently crystallized in situ to yield BPO₄ as the predominant crystal phase. The inventive glass-ceramics exhibit a linear coefficient of thermal expansion between about $30-45 \times 10^{-7}$ / DEG C, a dielectric constant less than 5, and consist essentially, in weight percent, of 10-25% B₂O₃, 20-40% P₂O₅, and >50-65% SiO₂.

IPC 1-7

C03C 10/02; **H01L 23/14**

IPC 8 full level

C03C 10/00 (2006.01); **C03C 10/02** (2006.01); **H01L 23/15** (2006.01); **H05K 3/46** (2006.01); **H05K 1/03** (2006.01)

CPC (source: EP KR US)

C03C 10/0054 (2013.01 - EP US); **H01L 23/00** (2013.01 - KR); **H01L 23/15** (2013.01 - EP US); **H01L 2924/0002** (2013.01 - EP US); **H01L 2924/09701** (2013.01 - EP US); **H05K 1/0306** (2013.01 - EP US)

Citation (search report)

- [Y] US 4576920 A 19860318 - MACDOWELL JOHN F [US]
- [Y] US 4666867 A 19870519 - BEALL GEORGE H [US], et al

Cited by

US6749769B2; US11236012B2; WO9200929A3

Designated contracting state (EPC)

DE FR GB IT NL

DOCDB simple family (publication)

EP 0319146 A2 19890607; **EP 0319146 A3 19900516**; JP H01167259 A 19890630; KR 890008970 A 19890713; US 4833104 A 19890523

DOCDB simple family (application)

EP 88310478 A 19881108; JP 29586088 A 19881122; KR 880015649 A 19881126; US 12592887 A 19871127